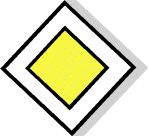
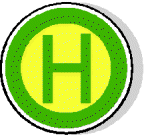
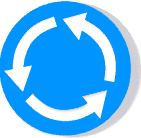
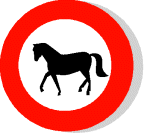
An object has line symmetry when two halves of the objects mirror each other across a line of symmetry.  A simple test to determine if a figure has line symmetry is to fold the figure along the supposed line of symmetry and see if the two halves of the figure coincide. A figure in the plane has a line of symmetry if the figure can be mapped onto itself by a reflection in the line.

An object has rotational symmetry if there is a center point around which the object is turned (rotated) a certain number of degrees and the object looks the same. In other words, the figure is the image of itself under a rotation about a point through any angle whose measure is strictly between 0° and 360°.  The number of positions in which the object looks exactly the same is called the order of the symmetry.  When determining order, the last rotation returns the object to its original position.  Order 1 implies no true rotational symmetry since a full 360-degree rotation was needed.

|  |  |
| --- | --- |
| http://www.regentsprep.org/regents/math/geometry/gt1a/Rhex3.gif | A regular hexagon has  rotational symmetry of  60°, 120°, 180°, 240°, and 300°. |

Can you determine the rotational symmetry of these?

http://www.regentsprep.org/regents/math/geometry/gt1a/design1.gif                     

Rotational symmetry…or no?

a. letter **F**

b. an equilateral triangle

c. letter **X**

d. a rectangle

e. a square

f. letter **W**

g. the letter **Q**

Line symmetry…or no?

a. the letter **F**

b. an  equilateral triangle

c. the letter **X**

d. the word **BOO**

e. a square

f. the word **WALLY**

g. the letter **Q**

(Do any have rotational?) (Do any have line symmetry?)